DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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RAYNOLDS & NOURSE, *Proprietors.* OFFICE, QUINCY HALL, BOSTON. S. W. COLE, *Editor.*

TESTING FRUITS.

Testing fruits fairly and thoroughly is a business of great importance to the community, and it requires nice and varied experiments, with the advantages of long experience and extensive observation. For a person to judge truly of the value of a fruit, he must be well acquainted with all other kinds cultivated in that region, or particularly with those of the same season.

Besides the quality and general appearance of the fruit, it is necessary to know its growth, bearing, and various other habits. Some varieties may be good growers and good bearers, and yet only a small part of the fruit may be fair and fit for the market. Some fruits are very tender and are liable to decay even from slight bruising, or they become discolored from bruising and will not sell well in the market.

Some persons seem to think that one well acquainted with fruits can judge from testing a single specimen, whether it is a valuable kind. In some cases a single apple has been handed to us, which may have been carried in the pocket a day or two, and perhaps kept in a warm room one or two weeks, without any information as to the habits of the tree, and our opinion is wanted as to its being worthy of extensive cultivation.

We often have inquiries whether the Northern Spy, Ladies, Sweeting, and other new and promising varieties of apples, have borne in this region, evidently with a view of forming an opinion of their worth, from the productions of a few specimens when the tree first begins to bear.

Now we will show our views of the subject, that it may be seen how widely we differ from those who would come to hasty conclusions from partial examinations. When we get specimens of a new fruit that promises to be highly valuable as a leading variety, we collect all the information we can as to its history, and its habits; and if we can, we procure a barrel of the fruit, in order to try it during its season, and compare it with other standard kinds. We also procure scions, and try them in the nursery, and on standard trees. And if we can, we visit the orchards where the variety is cultivated. After all these advantages of judging of a fruit, we find it necessary to procure a barrel of fruit year after year, and distribute specimens among good judges, and learn their opinions.

Sometimes we have seen a tree producing fair fruit of excellent quality, but we could learn nothing of it, excepting from the original tree. In such cases we have obtained scions for trial on old trees, and for their growth in the nursery, and we have also sent them to our friends in different sections of the country, that they might be tested in various locations and climates.

When we are asked whether the Northern Spy, and other new fruits, have been tested in New England, we sometimes reply that they have not, nor will they be for ten years. When a new fruit begins to bear on very thrifty branches, and especially on young trees, it is often small and knurly, even though it be a good variety under favorable circumstances.

Some fifteen years ago, the Minister apple was introduced, and the greatest pomologist pronounced it the finest of American apples. Several other able writers on fruit have recommended it very highly; yet the North American Pomological Convention pronounced it second rate, and some cultivators say it is not worth cultivating. Most persons in speaking of this fruit have run into extremes. The amateur who has taken excellent care of his fruit, so that it has grown large and has not ripened till late in winter, or early in spring, when it loses its acidity, and acquires a high aromatic flavor, has a high opinion of the Minister apple; while the cultivator, who thought he should lose by thinning his fruit, and allowed the tree to bear too much, so that it is small and inferior, and then by rough handling, and exposure to air and sun, the fruit soon decays, or grows ripe and becomes dry, while yet too acid, and inferior even for cooking, pronounces it unprof-

itable, and condemns it at once. Thus after being introduced and highly recommended for fifteen years, this fruit is not well tested, and we doubt that it will ever be well tested, so that the generality of fruit growers will know its true merits and demerits.

Notwithstanding what we have said, we may, in many cases, get valuable information on new fruits with only a few year's experience, though a longer time may be requisite to make a thorough test.

ACKNOWLEDGMENTS.

From B. A. Rockwood, Holliston, apples for a name. They are a variety not generally known in this region. They are of a good size and fine appearance. Quality fine and pleasant.

From Perez Fisher, Franklin, apples of medial size, mostly red, tolerably fair and handsome, remarkably tender, and of a fine aromatic flavor. It is one of the finest varieties that we have tasted at this season. In use in December and January. It originated in Franklin.

From W. M. Spear, Braintree, Vt., apples called Pippin, excellent for cooking. We think this is identical with the Winter Pippin, cultivated in some parts of Vermont, great grower and bearer. Also Wilder Greening, a pretty good table apple, fair and handsome, good grower and constant bearer.

NOTICES OF PUBLICATIONS.

Dr. Lee's Address before the Hampshire, Hampden and Franklin Agricultural Society, at Northampton, Oct. 10, 1850. Dr. Daniel Lee, of New York, and now at the head of the Agricultural Department of the Patent Office, Washington, has done much to enlighten farming. His writings are distinguished for their scientific and practical bearing upon agriculture.

Transactions of Worcester Agricultural Society for the year 1850. It contains a short address by Rev. Mr. Stacy, Reports of Committees, and statements of applicants for premiums, embracing a variety of useful matter, published in a neat and compact form.

Large Hogs.—Mr. J. D. Fisk, of Waltham, raised two hogs, age 19 months, which weighed, dressed, 650 and 617 lbs., kept in the usual manner. They were to be seen last week at Stanley & Whittier's market, at Waltham, where specimens of pork, as cut up, (7 inches in thickness, clear,) can be seen at any time within a few days.

☞ We are indebted to Col. J. W. Lincoln for a list of Premiums offered by the Worcester Agricultural Society for 1851, to which we shall give attention in due time. The Cattle Show will be Sept. 18.

For the New England Farmer.

HEALTH.

How few know how to prize this blessing, the most grateful and best gift of God to man. Little do we think that without it, we should be indeed miserable, and that life's pleasures would be turned to pain, that no enjoyment remains for him who has parted with this precious boon. Let us look around us, and how few do we find enjoying perfect health. One has the dyspepsia and another the scrofula, and so on. These, with ten thousand other maladies which afflict mankind, we have brought upon ourselves by our own imprudence and neglect to the laws of our being. Then let us study the laws of health and live according to their precepts. Diet exerts a most powerful influence upon the body, modifying its powers and even exercising an effect upon the mind. In reference to diet, quantity is of as much importance as quality; if, therefore, we wish to live temperate lives, we should especially have a care not to overload the stomach, even if it be with *plain* food.

But little need be said upon the quality of the food; it should be plain and easy of digestion, that the stomach may not be taxed and its digestive powers impaired. All greasy, fatty substances should be avoided, for they invariably tend to fill the blood with humors. Some contend that animal food is pernicious and was never intended for food; they advance many strong arguments in support of this theory and have found many followers. Suffice it to say, that animal food can never injure the most delicate stomach; that is, we intend to say more than the same quantity of vegetable food. It is certain, therefore, that an animal diet is not so hurtful as some of these supporters of Graham have imagined. The Grahamite will probably reply that he knows of persons with whom animal food actually disagrees; but we can assert there are people with whom vegetable food disagrees.

But we are no supporters of an entire animal diet, but believe that the food should consist of a proper admixture of both. Bread has been styled the staff of life, and so it most certainly is; it has constituted a part of the food of the human family for many ages, and thus it continues to the present day. Flour bread is admitted on all hands to be the most injurious to the digestive organs, and its use should be avoided. It actually destroys more than any one thing not directly, but through the fatal power of dyspepsia and consumption, which it produces. We are apt to swallow our food too quickly, and it therefore can but be imperfectly masticated, so that the stomach cannot perform its functions with perfection. We also eat too much, thereby overloading the stomach, and hindering digestion in that way, beside filling the blood with humors, which, if suffered to remain, would cause a legion of diseases. Thus we see that diseases of various kinds are brought into existence through our imprudence in eating, alone; then is it not our duty to avoid such practices as are laying the foundation for our dissolution? A duty which we owe to the great and benificent Creator of our bodies, who has formed them with such consummate skill, and created us the lords of the earth, stamped us in his own divine form and competent to discharge the active duties of life.

"Health alone can give us zest;"
All who feel its power are blest;
'Tis itself the heart's one treasure.

D W. C. P.

STEWART'S PATENT STUMP MACHINE.

STEWART'S PATENT STUMP MACHINE.

This machine is not only used for pulling stumps, but it is applicable to moving buildings, rocks, &c. It possesses great power and may be worked with ease and convenience. A few words by way of explanation may be acceptable to some of our readers.

A strong chain is put around the root of the stump to be removed, as represented in the engraving on the left. This chain passes over *shears*, or strong timbers so placed as to give the power at the stump an upward direction. In many cases this part may be dispensed with, and the chain pass up over the stump. The chain continues onward to the lever, on wheels, to which the horse is attached. This lever is fastened to a stationary stump When the horse has passed on, according to his present position, the length of the lever, he is turned in the other direction, and at the same time, the outer chain is dropped and the inner chain is hooked into the leading chain, and the horse passes on to the extent of the lever in the other direction.

A pair of oxen may be used, if more convenient. When stumps are thick, a large number may be pulled without removing the lever from the stationary stump. It is said that the largest stumps may be easily extracted with this machine. A pair of horses or oxen is a sufficient team to take it from place to place, and three men are sufficient to manage it in the heaviest work. The removal of 100 stumps is considered a day's work.

Machines and patent rights are offered for sale. Address, William W. Willis, or James Kilburn, Orange, Mass. Reference is made to the following gentlemen:—Alvah Crocker, Esq., Fitchburg, formerly President of Vermont & Mass. Railroad; S. F. Johnson, engineer of Troy & Greeefield Railroad; Gilmore & Carpenter, Boston, railroad contractors; Boody, Dillon & Co., Springfield, railroad contractors.

SECOND AGRICULTURAL MEETING

At the State House, Jan. 21.

Gov. Boutwell in the Chair,—Subject, "The Potato Disease."

The President made a few appropriate remarks on the importance of agriculture, and he expressed the deep interest he felt in the cause, and his desire to promote it. As he was not practically acquainted with the subject under discussion, he declined making any remarks on it.

Hon. Marshall P. Wilder, of Dorchester, was called on to open the discussion. He remarked that he was called on unexpectedly, and was not prepared for the occasion. He said that this disease baffles the wisdom of the most scientific in the the world. England and other countries of Europe had appointed able commissioners to investigate this subject, but without effect. But he believed that in the progress of science, a remedy for this disease would be discovered. He had some experience in this subject. The past season was one of uncommon moisture, and the potatoes were most injured on wet land. On the farm of Daniel Webster, they rotted on wet land, while they succeeded well at a short distance on high land. Governor Hill raised good crops of potatoes free from rot, by planting on dry land, and manuring with guano and plaster. Col. Wilder remarked that the cause of the disease had been discovered by a gentleman of this country, Mr. Teschemacher. It is a fungus, the seeds of which float in the atmosphere, and attach themselves to the leaves of the plant when it is wet and warm; when we have what is called dog-day weather. We have a fungus on rose leaves, and we destroy it by fumigation with sulphur. Dr. Hayes has recommended this mode to save potatoes after they are dug. Barn-yard manure promotes potato rot; saline substances tend to prevent it.

Rev. Mr. Sanger, of Dover, said that his views on this subject corresponded with those of the gentleman who had just spoken. His potatoes did not rot on dry land, but they did on wet. He used peat exposed to frost, and made into compost. In preserving potatoes, they should be kept in a dry, cool place, separated from each other, or well spread out.

Hon. Caleb Cushing, of Newbury, on being called on, said that his views were crude. As to the cause of this disease all was uncertain. He doubted that fungus was the cause, as it may be an effect instead of a cause; for it usually fastens itself on decaying plants. One finds fumigation a cure, another does not. One finds saline substance a remedy, another rot. What is the rot? The tuber is decomposed. What is the origin? We understand the decay of a variety, but not of a species. The St. Michael Pear and other fruits have declined and run out; and a whole species or genus may decline. The potato is not indigenous to the United States; but its native region is the whole range of the Andes. In its native climate it is free from the extremes of heat, and it has its native cool soil, without high culture and manuring. Plants have a natural adaptation to climate or soil. You may, by a change of circumstances, such as high culture, make what is called an improvement in some respects, but you may by this change destroy the plant. There is now a new field of exploration open before us. The native region of the potato should be examined to ascertain whether the disease prevails there, and if not, roots and seeds should be procured for experiment in this country. Mr. Cushing suggested that this society present a memorial to the President of the United States to instruct our Ministers and Consuls to procure the potato from its native regions.

Hon. J. W. Proctor, of Danvers, President of the Essex Agricultural Society, was called up, and he remarked that he was not prepared to enter upon the discussion of the subject; but he would relate the result of his observations. The farmers in Essex County lost nearly all their crops of potatoes the last season. Various experiments had been made to find out a remedy for the disease; but without success. A farmer in Salem ploughed dry sandy land, and applied as manure leached ashes, lime, and plaster. Early in the season, the potatoes looked very promising, but in autumn there was an entire failure. In some hills there were no potatoes, in others, there were a few, and they were rotten. In Methuen a farmer that thought all depended on the soil, selected a piece of rather dry yellow loam, and made it moderately rich by manuring broadcast. His crop was better than his neighbors. He had another piece on reclaimed meadows, planted on ridges. The crop was blighted, and the owner attributed the blight to insects, as slugs were found about the roots of the plants and on the vines. The subject is highly important, as some farmers lose as much as the usual profit of their farms.

Hon. Mr. French, of Braintree, said that he should be happy to throw some light on the subject, if he could; but no mode of culture can be named that has invariably succeeded. The kind of potato first diseased on his place, was the Abington Blue or Veto. The dark colored potatoes were most affected at first, and then the white; but this season the white varieties were mostly destroyed, while the Long Johns (Long Reds, Rep.) had done the best. As to wet seasons being the cause, we had as wet seasons years ago, before this disease prevailed. He thought if the tops were cut off just before the disease came on, it would save the potatoes. He thought the disease usually begins about the 20th of August; and frequently they rot the most from that time to the 1st of September. Last year he examined his potatoes about the 20th of August. The tops just began to show a little discoloration. He went away, and on his return in ten days he found that nearly all his potatoes were rotten. He set a man to dig some in the fall, and he worked most of a day where he ought to have had 1000 bushels, and he did not get a bushel, and those were small. No remedy can be named, but what has failed in some cases. Potatoes had been procured from Chili, its native country, and planted in this country, and we have heard no favorable report from them. There is some safety in planting early, and digging before the 20th of August. The variety called Ladies' Fingers have generally escaped the disease. Hill's Early have usually done well, but they rotted the last season. We may yet find a remedy.

Rev. Mr. Barry, of Hanover, said that he ploughed an acre of ash-colored loam last spring. On one half, in which was a gravelly hill, he spread well decomposed manure from the barn-yard, harrowed it, and planted with Chenangoes. On the other half he applied plaster, and planted Long Reds. The vines grew luxuriantly, and were green in November. He dug only 6 or 8 bushels where the land was manured; they rotted on the gravelly knoll as on the other parts; but on the half not manured, he obtained 50 bushels of sound potatoes. Last fall he fumigated a part of his Long Reds, as directed by Dr. Hayes, and many of them rotted But he placed a part of them in a dark, cool, dry part of the cellar, without fumigation, and they kept well. The crop had almost wholly failed the past year, in his section. He thought there were some general rules that might be followed to advantage. He would plant early, on dry, loamy soil, preferring greensward. The manure should be well decomposed and spread broadcast; and the later they are dug, the better they will keep. He thought that fungus was an effect, not the cause of the disease.

Col. Wilder remarked that the most scientific men of Europe regarded fungus as a cause of the disease.

Hon. Seth Sprague, of Duxbury, President of the Plymouth Agricultural Society, said that he had planted potatoes on various soils, and they have failed occasionally in all locations. He had manured variously, both in manner and in the quality of the manure, but the effect was about the same. Last Spring he planted on sword land, and spread the manure, but there was a failure. He planted a piece of light land, manured lightly with peat, and they were not much rotten at digging, but they decayed afterwards. His neighbors' crops failed also. Various remedies had been tried, and sometimes they succeeded, again they failed. Generally potatoes do better when planted early, and dug early. But they have sometimes failed under all circumstances. He said that he had no knowledge of the cause, or remedy for the disease, and he did not believe that any body else had.

Rev. Mr. Stetson, of Braintree, observed that in 1849, he ploughed an acre and a half of highland, on a northern slope. He harrowed in the manure, applied plaster, and planted the 23rd of April, and obtained 240 bushels, and not a rotten potato. His neighbor ploughed similar land, the same extent, managed it the same, excepting he did not plant till the 10th of May; and he had only 20 bushels. The last spring he sowed 12 bushels of salt on the same land, and planted potatoes, and they began to rot in August.

Friend J. M. Earle, of Worcester, said that no theory holds good as to this disease. Facts disprove all theories. Our very best potatoes are brought, this season, from the region of Lake Champlain, where the land is generally rather low, and the soil a clayey loam. One man planted potatoes late, and they did well, while his early planted failed.

Benjamin Flagg, Esq., of Worcester, planted Early Hill potatoes, on high land, early in the season for the market. He manured in the hill with compost. He dug some early and they were sound, but some remained in the ground, after they ripened, and they rotted. Last year he planted late, and they rotted.

Gen. Littleton, of Chicopee, remarked that this subject was of vast importance to farmers, and they were becoming discouraged. His gardener had presented to the agricultural society, as fine potatoes as ever grew, and they did not rot till last season. He considered the cause atmospheric, and the tops were first affected. In the State of New York, he found a potatoe from the West, resembling the Sand Lake, said to be hardy, but they had failed, and all others, excepting the Early Foxes, from Philadelphia, which had done well, probably owing to their earliness.

The meeting was unusually large, and the discussion animated and interesting. The large Hall was well filled with an attentive audience.

The Committee of Arrangement announced that the next subject would be "Thorough Draining and Subsoil Ploughing," and that it was expected that ex-governor Lincoln would preside, and open the discussion.

POTATO ROT.

We have been requested to publish what facts can be obtained on this subject, with a view of aiding the cultivator in guarding against the malady. The present is a favorable opportunity to offer our views, while a report of the discussion on this subject at the State House is before our readers. In that discussion no new facts were elicited, yet many important ones were stated and confirmed, the observance of which is important to success in cultivating this crop. Some theories were offered with ability, that were more plausible than correct; and we were sorry to see attempts made to upset well-established and highly important facts, merely by exceptions to a general rule. In proceeding with this subject we shall have occasion to refer to that report, or views therein advanced.

This disease is so well known that a description of it is unnecessary. We believe that it first made its appearance in this country in 1843. It then prevailed to a considerable extent in the State of New York, and in some sections with severity, particularly in the region about Utica. The disease might prevail in other parts of the continent, but we have no account of it. In 1844, it was common in nearly, or quite all parts of the country, where the potato was cultivated, and to a considerable extent it was very severe, destroying nearly all the crop.

This malady was prevalent in Europe about twelve years before it appeared here, and it continued with great violence in that country for a number of years after it visited this continent. So great was the destruction of the potato crop in Europe, that in some districts, where it had constituted the principal food of the inhabitants, thousands of persons lost their lives by starvation, and diseases consequent on scanty sustenance; and a far greater destruction of life would have occurred, but for charitable and liberal aid afforded by the inhabitants of this country. Various diseases in the potato had prevailed in Eurape at different periods, but whether any one was identical with this we cannot say.

As to the cause of the potato rot, there have been many conjectures; and at first various, secondary or predisposing causes, such as wet land, animal manures, warm wet weather, planting on old lands, &c., &c., were by different observers regarded as the principal cause, and those remedies which had a partial effect, and in some cases seemed sufficient, were at once regarded as completely effectual.

Again, some varieties that were more hardy than usual, appeared from limited experiments to be proof against the disease. But as it continued, and occasionally increased in violence, in some sections it swept away all theories.

On every soil and location the potato has been affected; no manure, or mode of manuring, or the absence of manure has saved it from destruction, when the disease has been severe. No variety has escaped the ravages of this disease. Even new varieties, which some thought might be relied on, have rotted as readily as old ones. We have raised new varieties from the seed that have rotted the first year, and last year we lost more than 50 varieties that were two and three years from seed, as they all rotted. Since this disease has prevailed, we have had some seasons that were rather dry and tolerably cool, without one severe rain during the period of the potato rot, and yet the rot has prevailed.

It was supposed that the potato was declining generally, and that it might be renewed in full vigor by procuring seed and tubers from the native region of the potato. This has been tried without any favorable result. Potatoes from seed brought from Peru rotted as readily as old varieties planted by the side of them. When the disease was spreading nearly over the whole world, and the only places heard from where it did not decay were the south of Spain and some islands of the Mediterranean, potatoes were procured from those favored spots, and planted in England, but they failed also.

Although early planting is generally attended with the best success, yet no time of planting has been a security. We have known early potatoes to rot in June, and the disease to prevail occasionally from that time till the latter part of November. We have known it to appear early and then disappear for one or two months. One year, (1847,) we dug the most of our potatoes by the 20th of September, and they had rotted but very little, some varieties not any. We then omitted digging till the 10th of October, and in some cases they were half rotten by the side of those that had not rotted any at the previous digging.

The state of the weather is not the principal cause of the rot, for in years past we had as wet and as warm weather as we have ever had since the rot prevailed, yet the wet, warm, muggy weather, is the most powerful of all secondary or predisposing causes. So powerful that when the weather is dry and cool, the potato will generally resist not only the principal, but all other secondary causes. As an example, in 1849, a season in which the disease was very light, generally, we had procured a hardy and valuable kind, and to subject it to a severe test we planted some on wet land, and manured with unfermented animal manure. On digging them the last of September, they had not rotted. But as we had had no rain of consequence for some weeks, we let a part of them remain, till after rather heavy rains in October, and yet they had not rotted. This variety seemed so hardy, that we planted more of them than of any other variety last season, and the crop was not worth digging, not even on dry land. Whether this great difference was owing to the different state of the weather in the two years, or to the greater prevalence of the principal cause of the disease in 1850, we cannot say. We think that without regard to the weather, the main cause of the disease may abound more in one season than in another, and more in some sections of a country or of the world, than in others.

[To be Concluded in our next Number.]

For the New England Farmer.

THE CULTIVATION OF NATIVE TREES AND SHRUBS.

[Continued from Vol. 2, p. 411.]

The late lamented botanist, Mr. Oakes, supposed when he published his Botany of Vermont, that he had discovered in that State three species of trees, nowhere else to be found in New England. These were the Over Cup White Oak, Quercus Macrocarpa, the Northern Cork Elm, Ulmus Racemosa, and the Heart-leaved Balsam, Poplar, Populus Candicans. He also adds, the three fine species, viz: the two Balsam Poplars, and the magnificent Vermont Poplar, are scarcely found, unless cultivated, in any other of the New England States. The Vermont Poplar and the Heart-leaved Balsam Poplar were not seen native, in America, by either the elder or younger Michaux.

It is now known that the Over Cup White Oak is found in Massachusetts, likewise the Vermont Poplar, or Populas Monilifera, sometimes called the Virginian Poplar, and the Necklace Poplar.—The two Balsam Poplars, and the Northern Cork bark Elm, have not, as yet, to my knowledge, been discovered in Massachusetts, but they probably will be found, as they occur in the adjoining States. The Over Cup White Oak is a fine ornamental tree, and in its appearance is very distinct from the other species of the oak. It has a fine luxurious foliage, the leaves being larger than any of the oaks; sometimes in young and vigorous trees, they will measure twelve or more inches in length, by six or seven inches in breadth.—The acorns are very large and beautiful, covered more than half their length by cups having large scales, terminating in filaments resembling a fringe.

The Northern Cork Elm appears to have been wholly unknown, previous to the year 1829, when it was discovered and described in Silliman's Journal, by Mr. Thomas. It was likewise found in Vermont, by Mr. Oakes and Dr. Robbins. It is described in Torrey's Botany of New York, volume 2d, page 166, and illustrated by a plate. In its appearance, it resembles the common White Elm, and it would be by many persons mistaken for that tree. But upon a more close examination, it would be easily distinguished from any of the New England elms, by the broad plates of cork on its branches. It resembles somewhat the Ulmus Alata, or Wahoo, the elm found in the maritime parts of the Southern States. The Northern Cork Elm most resembles the European

Cork Elm. It grows to a large size, and is sufficiently unique to ensure its cultivation by the lovers of native trees.

The Vermont Poplar, also called the Necklace Poplar, is a handsome tree, with an altitude of 60 feet. Mr. Emerson says it has been cultivated for many years in Europe, where it is called Virginian Poplar, and Swiss Poplar, the last name being given from its having been extensively propagated in Switzerland. It is also known in England, by the name of Black Italian Poplar, from its having been introduced from Italy. It is valued for its rapid growth, which is, in the climate of London, between 30 and 40 feet in seven years; and even in Scotland, it has grown to the height of seventy feet, in 16 years; thus becoming of a size for timber, sooner than any other tree. Male trees are much to be preferred, in the vicinity of dwelling houses, as the cotton of the seeds adheres to clothes and furniture in a most troublesome manner.

The chesnut is a tree well suited for landscape gardening, being of a rapid growth, easily cultivated, and is one of our largest trees. There is a dwarf chesnut, called the Chinquapin, not more than six or eight feet high, very much resembling the common chesnut, a native of the Middle States, but hardy in the latitude of Boston. It is a very small tree or shrub, bearing its fruit when quite young, and very desirable for cultivation in a garden. It is to be found in the nurseries around Boston.

Some of the willows can be used to advantage in landscape gardening, to embellish low wet grounds, the borders of ponds and lakes, brooks and streams of water. The whole number of species to be found in the United States exceed 100. Torrey enumerates thirty species as growing in New York, and Emerson has found twenty-one in Massachusetts. One dwarf species of the willow, not hitherto noticed in this State, was discovered last summer, at one of the botanical excursions of the Essex Institute, on the sandy banks of the Merrimac river, at North Andover.—It was the long-leaved Sand Willow, the Salix Longiflora described by Torrey in his botany of New York, volume 2d, page 209.

The willows most noted for their beauty, and natives of Massachusetts, are the Glossy Willow, Heart-leaved Willow, Torrey's Willow, Stiff-leaved Willow, and the dense flowering early Willow. The foreign species introduced and now common are, the Weeping Willow, Golden Willow, Crack Willow, Varnished Willow, and the Bedford Willow. This last species was the favorite tree of Dr. Samuel Johnson, at Litchfield. The Ring-leaved Willow is a singular variety of the Weeping Willow, with curled leaves The willows are mostly early flowering, and some of them have their branches and young shoots beautifully colored with crimson, a reddish brown or golden yellow, rendering them very conspicuous in winter. All willows, it is well known, are of the easiest cultivation, readily growing from cuttings or truncheons planted in the ground.

The three-thorned Acacia, found in the Western States, is somewhat cultivated in New England, and is thought by some persons worthy of cultivation, as an ornamental tree. It is distinguished for its small, delicate, light foliage, and for its seed pods, five or six inches in length, and its branches and trunk are armed with triple thorns. When the Acacia makes a large growth, and consequently the wood is imperfect, or not well matured, the ends of the branches die in the winter. There is a Chinese species of the Acacia, with large leaves, and triple thorns, presenting a most formidable appearance.

S. P. Fowler.

Danvers, Jan. 10th, 1851.

[To be Continued.]

For the New England Farmer.

FARMING IN COBB CO., GEORGIA.

Mr. Editor:—As I don't like to write to an agricultural paper, in renewing my subscription, and merely do it as a matter of business, I will throw in my mite with a view of cultivating the kindly feelings which are, I can almost say, peculiar to our avocation, and make an effort to inform, if I cannot interest my fellow-laborers of the north; and to this end I propose a slight sketch of the agriculture of this county, lying to the north and west of the Chatahoochee river, which was in possession of the Cherokee Indians until May, 1838, when they were removed; and the land was taken in hand by the whites, almost an uncultivated wilderness. The soil is *generally* poor and very hilly, being (geologically) primitive formation, mostly the debris of Feldopathic granite, forming a tough clay soil, covered with a thin mixed vegetable soil, which when first cleared produces from 10 to 30 bushels of corn, but soon wears down and washes away. Native growth, red, post and white oaks, chestnut, hickory and scattering pines and poplars. Cultivation much infested with weeds and crabb, or crop-grass. Oats grow finely from 20 to 30 bushels per acre; corn 10 to 30; wheat 3 to 10, being much injured by the Hessian fly, and subject to *rust;* rye so much affected by the same causes as to be neglected; the cow pea from 3 to 5; usually fed off by stock. Carrots suit the soil, but beets, cabbage, turnips and potatoes (Irish) do not succeed; the deficiency in the last is, however, made up by the sweet potato, producing 100 bushels; all this is the product unassisted by manure.

There is, however, a considerable portion of creek and river bottoms very good, apparently the debris of Hornblende rocks; these last produce nearly double the above quantities per acre. The grey land is grateful for and tenacious of the little manure we have tried it with, and in addition to the above products known at the North, we have the staple product of the South, which gives very satisfactory return after the land has been cultivated a few years, producing from 1 to 5 hundred weight of clean cotton to the acre, according to the quality of the land, and being about 50 per ct. more expensive to cultivate than corn. Our uncleared lands can be bought for from $1 to 10, and farm partly cleared and log house improvements, from $3 to 25 an acre. Some innocent soul, up east, may now be thinking about pasture and cattle and manure; well, we are beginning to think of them too, but generally our cows have a few corn *shucks* thrown to them in the lane, and may lean against the fence to ruminate. Here and there a farmer may be found whose attempts to cultivate the *tame* grasses make him the laughing-stock of the neighborhood. Good grass is not natural to the soil, though I have found red-top and orchard grass and striped clover all growing wild Red clover will not grow without manure, and the

growth of that and other grasses tried is very much impeded by crop grass, which springs up in May and June, very soon after land is brought into cultivation, and covers all the soil which has been recently ploughed, making constant labor necessary in the corn and cotton crops, and out-growing and smothering the young tame grass; after wheat and oats are cut it comes up, where not checked by weeds, and makes a dense growth, from one to three feet high, and making, when cut, 5 to 30 hundred pounds of good hay; it dies with frost, and at times declines before that, having come to maturity. Another draw-back to the tame grasses is the dew berry vines, and a very coarse grass, the broom-sedge or broome-straw which *will* grow everywhere, and overshade and outgrow and smother and poison in a year or two, every pasture I have seen attempted.

Our population is hardy, but being able to get a support easily, not apt to overwork themselves; labor readily obtained at 50 cents per day, or when employed by the year and a house found, $10 per month, in both cases finding themselves; the number of slaves small.

The example of a few good farmers, who would show us a little Yankee tact and thrift, would do much to introduce better and more profitable farming among us.

If the forgoing is acceptable, Mr. Editor, I may at some other time say something of our climate, seasons, fruit &c.

A. S., of Oak-wood Farm.

Roswell, Cobb Co., Georgia, Jan. 2, 1851.

Remarks.—The preceding article will be interesting, as it shows what farmers are doing in other parts of the world; but the reader will be astonished at the low price of labor, and he will naturally be lead to inquire what makes the vast difference in the price of labor in New England and Georgia. It would be supposed that the cheapness of lands, and their fertility at the South, would enable the planter or farmer to pay good wages for labor.—Ed.

For the New England Farmer.

CEMENTING CELLARS.

It is getting to be quite a common thing for those who are troubled with wet cellars to have the bottoms cemented; many, too, whose cellars are dry, are doing the same. It is, too, a grand improvement. By having a cellar bottom cemented, and the cement evenly laid on, it is equal to having a stone bottom, with an entire flat surface. Those who are troubled with rats and mice in their cellars, can easily get rid of them by this means. People being near water are often annoyed with *wharf* rats, which are far more troublesome than the common rat. But there are other nice things about cementing cellar bottoms. They can always be kept clean with very little trouble, and there is no dirt to be carried up stairs on one's feet. Cellars fitted in this way are fine for keeping milk; every thing in the dairy line may be kept in nice order. But in regard to wet cellars, every one who is troubled in this way, knows very well that a cellar which has water in it six months out of twelve is of but little value, to say nothing of the injury done to the lower part of the house, by the dampness from the cellar. Now it seems to me that this may be prevented. I cannot bring proof positive, however, from my own experience as yet, although I have been trying the experiment in a cellar dug a year and a half ago. After completing the digging of the cellar, I dug down some fifteen or twenty inches and found water. During the summer the water kept about the same depth, but as soon as the fall rains commenced, the water raised and flowed into my cellar, and so remained through the winter and spring, varying from four to eight inches deep. There being no chance for a drain, I resolved on cementing the bottom and sides of the walls. In the first place I paved the bottom with small round stones, and then filled the crevices with fine gravel. This done the surface was swept over, and two coats of cement put on the sides of the wall. Now it strikes me that this will be a preventive, as this cement after it becomes hard seems to take the nature of stone; it becomes more solid and impervious in a damp place than in a dry. There is one thing connected with this matter, about which I wish for information. Not wishing to be deprived of the spring in my cellar, I stoned it up and fitted a sort of cistern, raised from twelve to fifteen inches above the bottom of the cellar. I have been told that in case of pressure, the water will be forced up this cistern above its level, and run over into the cellar. Now the question is, will the water in this cistern rise above its level?

Smithfield, R. I. A. Todd.

TO PRESERVE HAMS THROUGH THE SUMMER.

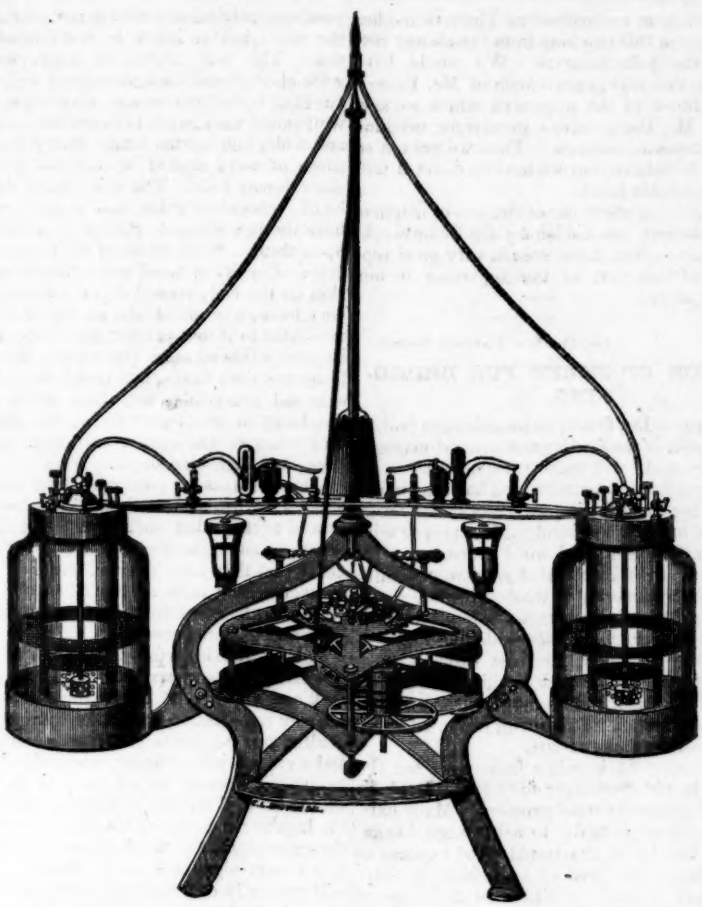
Messrs. Editors:—As the time of year is at hand for good house-keepers to put away their hams for summer and fall use, and as I hear so much about hams not keeping through the summer, I have thought it best to send you my method of taking care of them; and those of your subscribers who will try it as it should be tried, may write me if it fail, and I will pay the postage.

Make a number of cotton bags, a little larger than your hams; after the hams are well smoked, place them in the bags; then get the very best kind of sweet, well made hay, cut it with a cutting-box or knife, and with your hands press it well around the hams in the bags; tie your bags with good strings, put on a card the year, to show their age, and hang them up in your garret or some dry room; and my word for it, if you let them hang for five years, they will be better for boiling than on the day you put them up. I have kept them seven years, and have some now that are four years old. This method costs but little, as the bags will last for years. The only loss is the hay, and that the cattle will eat if given to them in the winter. No flies or bugs will trouble the hams if the hay is well pressed around them, the swetting of the hams will be taken up by the hay, and the hay will impart a fine flavor to the hams.—W. T Cuyler.

—*Cuylerville, N. Y., March*, 1850.

Genesee Farmer.

Mutton Broth.—Put into a two-quart saucepan one pound of mutton chops, cleared from fat, one onion, half a dozen corns of black pepper, and three pints of cold water; let it warm gradually, when it boils, skim it, cover the pan close and set it over a gentle fire till the chops are cooked, which will be (if the meat is not too fresh,) in three-quarters of an hour.



MR. PAINE'S APPARATUS.

We are indebted to the proprietors of the "Commonwealth" for the above engraving of Mr. Paine's large apparatus for generating gas from water. We copy from that paper the following description of the engraving:

The engraving above represents in perspective Mr. Paine's larger apparatus for generating hydrogen from water, including three of the simple magneto-electro machines previously described in this paper (of Thursday), made to combine their currents in one set of electrodes. The machine was got up before Mr. Paine had discovered the *catalising* process, by spirits of turpentine, and therefore contains two bell-glass gasometers, one for hydrogen and the other for oxygen, so that a light might be made by supporting the combustion of the hydrogen with oxygen. The discovery of a mode of making the hydrogen luminous without any considerable expense, renders the generation of the oxygen unnecessary and relieves the process of some danger of explosion.

The machine consists of a tripod iron frame, about three feet in diameter, within which is mounted a smaller diamond shaped frame, containing the three sets of U magnets, with a train of toothed wheels to set in motion the helices, and to give the pole-chargers one revolution to three revolutions of helices. There are two small glasses of water for interrupting the wires so as to prevent the development of mixed gases, and above them on each side a contrivance, which Mr. Paine calls a governor, for letting off an excess of the electric current, a matter of great importance, which has seriously tasked his ingenuity. On the centre of the frame is a perpendicular rod passing through a large weight. The gravitation of this weight when drawn to the top of the rod, gives motion to the helices through the train of clock-work, and its descent will keep them in motion, if we understand Mr. Paine, for twenty-four hours. Mr. Paine asserts that the power of this machine, which we did not see in operation, as it was undergoing alterations to fit it for exhibition in the World's Fair, is not simply three times that of the single machine, but about twenty-seven times. He supposes that by combining the currents of several magnets, the decomposing power increases as *the cube* of the number of currents. The world of course will wait to see experiments which demonstrate this. To

us it does not seem unreasonable. There is another gain of power in this machine from the slower revolution of the pole-changers. We would have stated before that this improvement of Mr. Paine's is not introduced in the apparatus which we saw operating. Mr. Paine thinks this larger machine will feed a thousand burners. This we are not so sanguine as to believe, but we have no doubt it will light a considerable hotel.

In the engraving above one of the sets of magnets and all the helices are hidden by the frame work. Our readers, however, have seen a very good representation of this part of the apparatus in our Thursday's paper.

For the New England Farmer.

SELECTION OF SHEEP FOR BREEDING.

Mr. Editor:—In a former communication (vol. 2, p. 156,) I spoke of the feeding and general management of sheep, and I will make a few remarks on selection for breeding; a matter which has a more important bearing upon the improvement of our flocks and success in sheep husbandry, than proper winter and summer keep, and good management in other respects; and still one that is more generally neglected by the majority of wool-growers.

When our flock of ewes are not below a medium character, it is perhaps the most judicious and economical course to select the most valuable ones, and couple them with a buck of highly approved qualities, as one superior ram may have as great an influence on the improved character of the offspring as 50 or 75 ewes of like merits.

The importance of breeding from none but the best bucks is not seemingly fully appreciated by only a small portion of wool-growers. Many have not a convenient opportunity to select such bucks, and rather than be at the trouble and expense of procuring them, use those of an inferior quality; and some think it more profitable to make use of an ordinary animal than pay a liberal price for a good one. Such should bear in mind that the value of the offspring of two bucks from ewes of a like quality may vary from 25 cents to $1,00 or more per head; and this on a flock of 50 ewes would render it advantageous to pay even an extravagant price for a good buck, rather than use a poor one if it were given to them.

Again, there are farmers who are anxious to improve their flocks and willing to pay liberally for the means, but have not had sufficient experience in the examination and comparison of the different breeds and flocks to know what constitutes the most desirable form and fleece; and consequently are not qualified for making the best selections.

I will here speak of what I conceive to be some of the most valuable qualities of a stock buck for wool-growing purposes. It should be remarked that all of the desirable properties are seldom if ever united in the highest degree of perfection in one animal, and the best we can do is to choose those that approximate nearest to what we wish.

It is of the first importance that a stock buck should be a descendant from a pure and thorough bred flock. Unless this condition is complied with he will be subject to hereditary defects not visible to the eye in the animal we select, but which will be perceptible in many of his offspring.

Much attention should be paid to the form. A good symmetrical structure is not only gratifying to the fancy, but an index to many valuable properties. The body should be long, with a deep, wide chest, broad back, round and well spread hips, swelling barrel, but no sag, short legs, thick, short, well raised neck, wide between the eyes, face short and wide, and not too white; that portion of it destitute of wool should be covered with fine, soft, short downy hair. The skin around the eye should be of a chocolate color, and it is a good sign to have the lips resemble this color, or have dark spots upon them. Such marks of the face are good evidence of purity of blood and valuable sheep. The skin on the body should be of a light pink color—very loose, with small rolls on the neck (large ones are liable to throw out *jar*) and many folds should be perceptible on other parts when shorn, especially on the ribs, flanks, and round the tail. A loose skin and many folds are traits much esteemed by the German wool-growers at the present time—they being so universally connected with a heavy fleece and high bred sheep.

The Germans for many years selected sheep for breeding with smooth tight skins, but experience proved to them that such sheep had delicate constitutions and light fleeces, and now for a number of years past they have selected bucks of an opposite character, and have succeeded in obtaining sheep with a hardy constitution and heavy fleece, with a high degree of fineness.

A buck should have a bold, yet docile look, and magestic carriage; and one with the above form, look and appearance, will almost universally have a hardy constitution, which is indispensable for a healthy and vigorous offspring, quiet disposition, and a close thick set fleece, which should be of good length and fineness on all parts of the body. He should be well wooled over the head and down on the legs to the hoof. This is not so important for the extra amount of wool grown on those parts, but it is a sure sign of a heavy shearer and one that will generally cut more wool on the same surface on the body than those destitute of wool on the extremities. Particular attention should be paid to the properties of the wool on different parts of the body. There should be as much uniformity as possible in the fineness, length and compactness of the wool throughout the fleece. We frequently meet with sheep with fine wool on the shoulder and back, and quite coarse wool on the belly, flanks, legs, &c. And it may be of good length and thickness on the back and shoulder, and comparatively thin and short on other parts. This unevenness naturally lessons the value of the fleece, and cannot be too much guarded against in a stock buck.

The color of the wool, and form it naturally assumes on the sheep, is a matter of high consideration. Indeed, an experienced eye can judge very accurately of the quality of the wool and character of the sheep from the external appearance of the fleece. The wool should have a dark, even surface but open white, (or creamy white) and glossy, and grow in small cylindrical tufts, which should not be united to each other by cross hairs, or coarse wool, and the smaller divisions or strands composing those tufts should be free from twist. The fibre should have short and uniform curors. This is an excellent test of fineness. It is a rule, with seldom an exception, that the greater the number of curors within a given span the better the quality of the wool. The description which I have given

of a buck would be my type of a ewe with such deviations as are characteristic of the sex.

The fleece of a buck should have an abundant supply of clear, thin oil, flowing to the end of the staple, which by the adherence of dust and smut, give the extremities of the wool a dark appearance, and what the Spaniards term the "noble color." A merino buck's fleece that is well supplied with oil will shrink in cleansing after a common cold water wash from 45 to 50 per cent., but by a thorough washing, from 40 to 45 per cent. This shrinkage may seem large to many, but it should be kept in mind that a buck's fleece will shrink about one-third more than a ewe's of the same blood, and the ewe descendants of a buck that shrunk less than this, would not be likely to have a sufficent quantity of oil to preserve the wool from "dead ends," and produce the most perfect and valuable fleece.

Wool-buyers frequently make a good deal of noise about the oil and gum in merino wool; some of them speak of it as a useless ingredient which can be dispensed with at pleasure; still a good supply of oil of the right kind is more highly appreciated by intelligent and well informed wool-growers now, than formerlly. Experience having proved that it is just as natural to merino sheep as fine wool, and cannot be bred out without impairing the value of the fleece, bodily health of the sheep, and profits of the wool-grower, as it protects the sheep and fleece against the injurious effects of the weather, promotes the growth and gives increased strength, elasticity, softness and lustre to the wool; and inasmuch as it adds to the bodily warmth of sheep in cold weather, they will consume less food. There is a kind of gum of a thick yellow nature, which is very objectionable. This does not circulate freely to the ends of the wool, but may be seen within the fleece in small adhesive particles, somewhat resembling "ear-wax." Such fleeces frequently have a whitish surface, with "dead ends," and are harder to wash, and will skrink more in cleansing than any others. Indeed, gum cannot be washed out by a common brook washing. This sort of gum is never found in the best wooled merinos when in a healthy state, and its presence in the fleece of a healthy sheep may be taken as proof of impure blood.

I believe the prejudice of some manufacturers and wool-buyers against oily sheep, has been mainly caused by this last named gum, and having our sheep imperfectly washed, and letting them carry their fleeces too long after washing. Sheep whose fleeces abound in oil or gum, should be soaked and let out into a close yard, and allowed to get up a steam before taken in to wash, and then shear them as soon as the fleece becomes thoroughly dry and a little moist with oil. When fleeces that abound in oil, and do not have this objectionable gum, are treated in this way, they will shrink but a trifle more than the fleeces of sheep quite destitute of oil, and they are easier manufactured and have no waste of "dead ends,"—besides making a more beautiful and durable fabric.

People in judging of the comparative merits of sheep are not apt to take the size into right consideration. Many, I presume, would prefer a large sheep to a small one, even if it did not produce quite as much wool, but it should be borne in mind that as a general rule, animals of the same species after coming to maturity, consume food in proportion to their size; from this it would follow, that other things being equal, those sheep are the most valuable for the production of wool that yields the largest amount of *cleansed* wool in the ratio of their size. Still when other things are nearly balanced I should choose a good sized sheep to a small one, as they are more pleasing to our taste, and generally possess stronger constitutions, and are better breeders; besides they will make us less labor and trouble in proportion to their income.

I believe the growing of fine wool will eventually be the most profitable to the New England woolgrower; that is, as fine as practicable and obtain a heavy fleece and sheep with a strong constitution. There is not much difficulty in producing fleeces that will average 4 lbs. of clear washed wool, which would be classed by a wool-sorter as "Fine" and "No. 1." My entire flock of breeding ewes and lambs averaged at the last shearing 4 lbs. 2 ounces, and with the exception of a few fleeces for domestic use, were carried to the wool depot, and out of about 330 fleeces, there were but two of "No. 2," the remainder going into the three higher qualities which sold for 41 1-2, 43 1-4, and 46 cents per pound. One reason why the growing of fine wool will be the most profitable to Eastern wool-growers, is the increase of competition from the West on wool of a coarse and medium quality. The cheapness and richness of the Western lands and length of time of foddering are such that wool of an ordinary and medium quality can be grown there at a much less cost than in the Eastern States, but I do not think the Western wool-growers can successfully compete with us on fine wool. The farmers at the West, taken as a whole, have not the requisite practical knowledge in sheep husbandry, and fixtures so essential for the production of truly fine wool; and provided they had all this, the surface of the land, soil and climate are all against the growth of fine wool, and must more than balance the skill of the wool-grower in breeding to keep up a good degree of fineness. I believe the prospects of receiving remunerating prices for fine wool are more promising than they have been for many years. The want of an efficient tariff and political revolutions in several wool-growing and manufacturing countries have thrown a large quantity of fine cloths into our markets for a few years past, which have operated to keep down the price of fine wool; but the natural inference is, and it is so represented, that those political disturbances have broken up some of the most valuable flocks in those conntries and stopped and impeded many of their manufactories, so that it must now be some little time before they can raise the material and manufacture their usual quantity of cloths.

I think it would much accelerate the improvement of our flocks, if there could be more of a mutual interest and understanding between wool-growers and manufacturers as to what constitutes the most valuable and desirable sheep for the production of wool. Many wool-growers are ignorant of the properties that a fleece should possess to render it the most acceptable to the manufacturer, and many of the latter have a very imperfect knowledge of the character and traits a sheep should have for the successful growth of a fleece which would meet their approbation, and through ignorance or selfishness the manufacturers have influenced some wool-growers in the choice and breeding of sheep very much to the disadvantage of the latter; and were the advice of some of the manufacturers heeded

by wool-growers generally, their council would in the end opperate very much to their own disadvantage. I am of the opinion that the pure merino will give us the most valuable fleece and are the most profitable where the main object is the growing of wool. I have kept a flock of merinos with but little variation from 400 for twenty years, and with the exception of a few years when there was much wool sold as low as 22 and 26 cents per pound, I have never failed to realize a profit from them. The income of my flock for the past year, including the sale of wool and surplus sheep, was $3,17 per head. I did not sell any of my young stock the last year except wether lambs; the majority of those sold were my oldest and most objectionable ewes, and if I had sold lambs in the place of these the above income could not have amounted to less than $3,50 per head. I will send you samples of wool from my sheep, that you may judge of their character as to fineness. EBEN'R BRIDGE.

Pomfret, Vt., Jan. 20th, 1851.

REMARKS.—Accompanying this article, we have a card of specimens of Mr. Bridge's wool; they are very fine, and of even texture. Any one who wishes can examine them at our office. While some have become discouraged, and others have wrote discouragingly in regard to raising fine wool in New England, we are pleased to learn that Mr. Bridge finds the business so promising. We hope that his successful example will encourage others.—ED.

For the New England Farmer.

GRASSES FOR LAWNS.

[*Continued from Page 29.*]

MR. COLE:—When the soil is naturally uncongenial to the growth of the finer grasses, it is absolute folly to attempt forming a close and compact lawn, until it be first improved by artificial means. Loam, moderately fertile, is the best kind of soil on which to form a permanent lawn, and nearly all the finer grasses flourish on this soil, unless it be too wet, in which case drainage is necessary. If the soil be naturally light, a dressing of stiff clay will be beneficial; if naturally heavy and stiff, it should be well dressed with material calculated to reduce its texture, and modify its natural conditions.

The greatest difficulty I have met with, however, in sowing down lawns, is in obtaining the requisite variety of suitable grass seeds. And as it is almost impossible to form an artificial lawn, of good elastic turf, with one or two varieties of grass, the only resource is to sod it over with turf from a good sward, which is not only expensive, but often difficult to obtain of good quality; for a sward which may appear thick and close when grown on its natural bed, will frequently change its character when laid down on rich soil, and subjected to the scythe. Again, a sward which is allowed to grow naturally, and ripen its seeds, will change its character, if lifted and laid down in a garden, and kept continually mown before the plants form their flower-stalks. If the proper seeds can be procured, it is much better to sow down lawns, than to sod them with turf, even if the original cost were the same.

Much diversity of opinion prevails regarding the proper quantity of seeds to sow per acre, and from my observations I think many err more frequently by sowing too little, than too much. In fact, the *quantity* is generally a matter of mere guess work, and some will sow with the greatest confidence one bushel per acre, while others with equal confidence will sow five. Now, if my experience be worth anything at all, it goes to prove that the latter is nearer the mark than the former, and however wasteful this may appear to some, a rigid investigation of facts will prove this pretty near the truth.

An ordinary sward of the fine grasses will contain more than one thousand plants to the square foot, even when full grown, and some swards nearly twice that number. But supposing we calculate only 1000 plants to the square foot, or about 7 to the square inch, it would take nearly four bushels of seeds to the acre of the finer grasses to supply this number of grass plants. Supposing therefore that all the seeds that were sown vegetated and formed plants, this quantity would not be too much to form a sward; but not more than one half, or more frequently—one fourth of the seed sown vegetates; and therefore instead of seven, there is only two or three plants to the inch; and instead of one thousand, only three or four hundred to the square foot, which is never again supplied except by indigenous herbage, which generally destroy the sward, instead of mending it.

Injury is more likely to result from thin seeding in this country than in England; for if the sward be very thin, the surface of the ground is more liable to crack in dry weather, and also to be sooner burnt up than if thickly covered with plants. It is therefore more advisable to seed plentifully, than sparsely. Even if a large portion of the young plants should be destroyed for want of room, they improve the sward, both by excluding the drought, and affording nourishment to the rest by their decay.

I would recommend the following mixture for sowing down permanent lawns, which may be obtained at trifling expense.

Agnostis purpurea, (red-top,)	16 quarts.
Anthoxanthum ordoratum, (sweet vernal grass,)	2 do.
Avena flavescens, (oat grass,)	4 do.
Festuca duriuscula, (hard fescue grass,)	8 do.
Festuca Ovina, (sheep's fescue,)	16 do.
Festuca tenuifolia, (fine-leaved fescue,)	16 do.
Solium perenne tenue, (fine-leaved rye grass,)	4 do.
Poa nemoralis, (wood meadow grass,)	8 do.
" " sempervirens, (evergreen,)	8 do.
Poa nervata, (nerved meadow grass,)	8 do.
" pratense, (smooth-stalked meadow grass,)	4 do.
Trifolium repens, (white clover,)	4 lbs.
minus filiforme, (small green clover,)	4 lbs.

To this mixture may be added 16 quarts of the Cynosurus cristatus, (crested dog's tail grass) forming in all nearly three and a half bushels, which will be quite little enough for one acre, even supposing the seed to be of first rate quality, and this quantity should rather be increased than diminished, for it is vain to look for a good lawn unless the plants come up sufficiently thick to cover the whole ground regularly, when they are two or three inches high.

Before sowing the seed the surface of the ground should be made smooth and firm. None of the seeds should be covered more than from a quarter to half an inch deep, and the small and tighter kinds of seed, as the Agrostis, should not be buried at all, but merely pressed with the roller. In most cases more than one half of the seed is destroyed by being covered too deep, for it is well

known that if the seeds of the finer grasses be covered to the depth of an inch, they will not vegetate at all. It is therefore the better way to sow the larger seeds first, then rake the ground lightly, then sow the lighter seeds, and roll, while the ground is dry, and if the weather prove a little moist after the sowing, the light seeds will spring first, and soon cover the surface with verdure.

After the grass has all *brairded*, the roller should be passed over it, and this should be frequently repeated during the season. When the grass is young, the roller should be applied instead of the scythe, especially if the weather be very dry. A young grass lawn ought not to be often mown in very dry weather, during the first or second season of its growth, for the drought gets in among the roots, the stems dry up and the plants perish.

The rolling of grass lawns is very little attended to in American gardens, even where a fine one is wished. In the finest of English pleasure grounds, the lawn is generally rolled *before* it is mown, which not only makes a smooth close bottom, but makes it much easier mown; so much so, that I have often seen the mowers quit their usual morning's task before it was half finished, just because it had not been rolled the preceding evening.

R. B. Leuchars.

For the New England Farmer.

WHEAT-GROWING IN THE STATE OF MAINE.

Sir:—I beg your permission to make a few remarks on an article in the *Maine Farmer*, concerning the comparative advantages for wheat-growing in Maine, and in Scotland. The article alluded to says:—"The example of Scotland is encouraging to us. Our climate is as good for wheat, as Scotland is. It is probably somewhat colder in the winter, but it is less variable and therefore more suitable. Experience in Maine we think has abundantly proved that winter wheat will endure any amount of *cold*, but will not bear too many freezings and thawings, not because the constitution or organic system of the plant will not endure this also, but in consequence of the mechanical operation of lifting it out of its place and breaking its roots. Of course, when its *neck is broken* it dies. Well, now, if Scotland, by the skilful application of science to the raising of wheat, has made her hard and primitive soil beat the more favored wheat-growing regions of the North, cannot Maine do the same? Are not the Yankees of Maine as well taught and as ingenious and as industrious as the 'highland laddies' of Old Scotia? If they are not, it is full time they were."

From what source the editor has received his information, I am not aware; but it strikes me forcibly that his intelligence has not the certificate of *practical experience* to authenticate it. Wheat-growing in Scotland, generally, is like putting money into a lottery; you may have a chance, but no security, to receive it back with interest. With the exception of a very few instances, this insecurity is common over the whole country. The exceptions are the Lothians, the Carse of Gowrie, and a few other smaller spots where the soil is a deep alluvial deposit, and has been carefully and *scientifically* cultivated with a view to the growth of wheat. Even in these places the alternation of heat and cold are feared, and many times fatal to the winter wheats; and it is well known that they are not so great as they are felt to be in the Northern States of America. Winter wheat is more seldom used every successive year—the farmers preferring the spring wheat—and the advantages of what they call *fallowing*, which means ploughing up the soil in the fall, and letting it lie exposed to the atmosphere, and the reception of the benefits which proceed from frost, snow, &c., until sowing time. But, even with every care in preparation and culture, and the use of the most favoring conditions to ensure a liberal harvest, the farmers of Scotland can neither produce the *bulk* or *weight* of wheat that their Southern brethren in England can do. From 46 to 58 lbs. per bushel, I should think a fair statement of weight; while in the English markets 62 to 65 lbs. is commonly the weight. I would not be willing to declare that there were no single exceptions to the rule of comparison; but such as exist have no general weight, as the facts I have stated. With every deference to the opinion of the editor of the *Maine Farmer*, I am, I think, justified in saying that the farmers of Scotland are well educated men, and that they are *scientific* as well as *practical* farmers; and that they have discovered that *oat-growing* is the natural advantage their soil and climate accords them, (and this, after patient and well-conducted scientific enquiry,) and that it has been again resorted to very generally, is the clearest proof that they practically repudiate the position assumed by the editor of that journal. Their soil is cold, and alkaline manures will not warm it or favor its successful production of a wheat crop. A great portion of Scotland is incumbent on lime-stone, the disintegration of which supplies (according to some authorities) a sufficiency of alkaline food for cereals and the pulse crops; but, while beans, peas, oats, barley and bigg (or bere) grow to perfection, wheat, as I have said, is a kind of exotic that will not grow under common culture: any other will not pay. I apprehend that Maine would not prosper better in her efforts; for neither soil, climate; or other favoring conditions exist in that State to be advantageously used in wheat-growing. I am not sure that the "Yankees of Maine" have not discovered this thing, themselves; for some months' sojourn "down east" and all 'long shore, gave me opportunity to hear and learn something very like it. The insectivoræ, too, have shewed that wheat-growing is by no means an indigenous feature in Maine farming. Wishing my down east friends every success in productive crops, more germain to their soil, I am very truly yours,

John Charles Moore.

Boston, Jan. 13th, 1851.

Remarks.—If winter wheat is a very uncertain crop in Scotland, and we doubt not the correctness of our correspondent's views, for he is well acquainted with the agriculture fo that country, it only shows that the arguments drawn from wheat-growing in Scotland, in favor of this crop here, are without effect.

But whether wheat flourishes or fails in other lands, we contend that there should be more experiments in raising it in New England. We have many instances of great success, and we hope that these cases will lead to further trials and va-

ried experiments, and that no farmer will come to the conclusion that he cannot raise wheat until he has tried it thoroughly. A single experiment on one location is not sufficient. Various soils, modes of management, manures, &c., should be tried.

The wheat crop is an important one, and we now have to depend upon other States for the staff of life, which is assuming more and more importance, for in the largest grain-growing States this staple, is declining, and it must enevitably decline, as the process of culture is wearing out the natural fertility of the land, and when that is gone, the land can be enriched and wheat grown only at higher prices. —Ed.

BEAUTIFUL FLOWERING TREES.

In the tropics, vegetation is generally of a fresher verdure, more luxuriant and succulent, and adorned with larger and more shining leaves than in our northern climates. The "social plants," which often impart so uniform a character to European countries, are almost entirely absent in the equatorial regions. Trees almost as lofty as our oaks are adorned with flowers as large and beautiful as our lilies. On the shady banks of Rio Magdalena in South America, there grows a climbing Aristolochia, bearing flowers four feet in circumference, which the India boys draw over their heads in sport and wear as hats or helmets. In the island of the Indian Archipelago, the flower of the Refflesia is nearly three feet in diameter, and weighs over fourteen pounds.—*Humbolt's Aspects of Nature.*

Mechanics' Department, Arts, &c.

GRAVEL CEMENT FOR BUILDING.

A correspondent of the *Phrenological Journal*, writing from Wisconsin, describes a method of building from gravel and quicklime, which is exceedingly economical, and neat in appearance.

A gentleman (Mr. J. Goodrich), occupying a prairie farm in Wisconsin, came to the conclusion that where timber were thus scarce nature had undoubtedly provided other building material. He knew that under the prairie soil and subsoil, which is there about three feet deep, there existed a coarse, clean gravel, and often gravel banks, and also that lime abounded throughout the West; hence he reasoned with himself—Why will not this coarse gravel and lime make good walls for dwellings? He was not long in reducing his reasonings to a practical test.

The correspondent of the Journal thus speaks of the subject:—"I have seen Mr. Goodrich, examined this mode of structure thoroughly, and pronounce it, in my judgment, every way better than either brick or wood, and yet not one-fourth as expensive. The principal expense consists in drawing the material and lifting the mortar into the walls. Sand abounds almost everywhere, and can be got—especially coarse gravel—for nothing; and lime is cheap, say twelve or fifteen cents per bushel, unslacked. In this way, one bushel of lime serves for twenty bushels of gravel, so that 100 bushels of lime will put up 2,100 bushels of mortar, or some 2,500 cubic feet of wall, which, supposing your wall is one foot thick—enough, doubtless, for all practical purposes—would build the outside walls of a house thirty feet square and twenty feet high; and if the inside walls were eight inches thick, and run through the house each way, one to form the entry and the other to divide the house into front and back rooms, it would take only about thirty bushels more, or 130 bushels in all, at a cost less than twenty dollars! And how many days' work is it likely to require to slack this lime and shovel the gravel into it, and stir up the two together—for no working is needed, only mixing—and carry it up into the walls? There are about 3,300 cubic feet of mortar. Cannot a man mix up, on an average, one hundred cubic feet per day? I should think he could double this, yet at this rate the naked walls would cost thirty-three dollars for labor—and the commonest laborer can do it—supposing labor to be one dollar per day; and say, perhaps seventeen dollars for lime, or only fifty dollars. The chimneys can be carried up in the wall, as is now done in brick walls, and with trifling additional labor, and with no additional cost of brick and mortar. The walls of a good sized dwelling-house were put up in Elgin, Ill., last year, for about forty dollars, as I was informed by a Mr. Quigley, who was then building a church in that place."

The question may arise, are walls thus constructed sufficiently solid, and will they stand? The first building put up by Mr. Goodrich has stood for six years, without any plastering or cement on the outside, and shows no signs of decay whatever; on the contrary, it has become harder and stronger every year. The Journal's correspondent, in travelling through Illinois, Wisconsin and Michigan, saw probably one hundred houses and some fences built in this way—all looking well and substantial, with the exception of a few that had cracked on account of defective foundation.

Mr. Goodrich, the inventor, has had considerable experience in the business, being the builder and proprietor of the greater portion of the beautiful village of Milton, situated at the head of Prairie du Lac, in Rock county, Wisconsin. The success he has met with is known to many, who have visited that section of the country, as he has already several fine dwellings, a tavern house, a large block of stores, an academy and various other buildings completed, presenting a very pleasing appearance from their neat exterior, and giving the amplest evidence of the utility of cement in the construction of buildings of all classes.

"My buildings are made of clear, coarse gravel, and common quicklime. I use twelve parts of the former to one part of the latter; but if the former is free from dirt, soil, or clay, and the lime well burned or fresh, you cannot hit amiss, for it will cement in any proportion from one part of lime to one of gravel, to one part of lime to twenty parts of gravel. I prefer laying the foundation with stone laid in mortar, the same as for a brick house. The gravel walls are made of any thickness, according to the size and height of the house to be built. I have made the walls from ten to fifteen inches thick in my buildings. For curbing, we use pine plank, straight grained, one and a half inches thick, and twelve inches wide, and have enough to curb all the walls around the building at once. The planks are held up by narrow strips of boards, set

up edgeways, and tacked with a nail to the plank at or near each end. The planks are held together by clamps made of pieces of scantling some two feet long, with strong pins put in far enough apart to include the thickness of the wall, and also the two curbing planks. These clamps are hung over the top of the edges of the planks, and said pins hang down on each side, to hold them together, while a small stick, as long as the wall is thick, is placed between the planks and immediately under the clamps, to hold the upper part of the planks apart. As the wall rises the lower edge of the planks lap on the former layers, so as to keep the bottom right. We use a plumb, which is indispensably necessary, to carry up the wall true. The window frames and door frames ought to be as wide as the plank is thick, and about three inches thick, framed together, grooved and planed on the faced side to let in the stoppers to hold the sash and rabbeted, for the doors to shut in; they need no casing, which lessons the cost of finish very much. The joints are put into the wall the same as brick walls, hence you need no post, sills, or beams. I make flat roofs, so as to not need any plates or rafters, letting the joists give a pitch of half an inch to the foot, which is sufficient to cause the water to run off. I nail on to these joists straight-edged pine-boards, and plaster on two inches thick of gravel mortar, so as to make it fire-proof. Then on the top of this, as soon as it becomes dry, a coat of tar; then sift on sand, which makes it hard as it settles into the tar; then another coat likewise, and if it leaks, several coats of tar and sand, until it is water tight. This soon becomes very hard and solid, and it is cheaper than any covering I have yet found, and apparently durable. I carry up the wall still higher than the roof, so as to carry a balustrade in any shape that taste may dictate. These walls are rough and uninviting to the eye, but can easily be made smooth and level by plastering on a coat of coarse sand and lime, say one of the latter to eight of the former, and floated on to level up. Then a fine coat, say half lime and half sand, put on with the trowel and brush, which makes a hard finish for both outside and in. Then whitewash two or three coats, with fresh lime and you have a beautiful white finish, which is both imposing and inviting to the eye.

"The cost of the walls will be about one-third of the cost of brick; say from five to six cents per cubic foot, before they are plastered, including labor and material, board, &c., and they may be put up by any common laborer, if he can make the wall straight and plumb. If they are built in the early part of the season, and of good material, they are sure to stand; but they do not become hard like stone at once. This hardening process is slow but sure. The carbonic acid which is first driven off from the lime, by the burning in a kiln, returns through the atmosphere, in the same quantity, and re-unites with the lime in the wall, and this converts the lime into stone again; and as the gravel is stone, it of course all becomes stone or rock, and will be as durable as time. In fact, you can break the pebbles of gravel with a hammer before it will loosen them from the wall."—*Farmer & Mechanic.*

Ohio Wine.—A Mr. Shumans is preparing a box of wine, of his manufacture, from grapes grown in Ohio, for the great London Exhibition. The peculiarity of the wine is, that it is not fermented in the usual way, not adulterated with sugar or brandy, but is the pure juice of the Catawba grape, retaining the aroma and flavor of the fruit in a remarkable degree. The grapes were gathered last September, pressed in October, and the wine therefore needs the benefit of age.

METHOD OF SILVERING COIN,

AS PRACTISED BY MAJ. JEWREINOFF.

The combination of iron with carbon (cast iron) from the ease with which it melts, and the consequent possibility of taking the finest impressions of form, has come into very extensive application. The art of founding converts cast iron into enormous arches, columns, cannons, and also into the most delicate bracelets, ear-rings, &c. Unfortunately, the moist atmosphere very soon alters the surface of these objects, and it is found necessary to coat them with paint, which gives the cast iron, the color of which is itself not very attractive, the appearance of mourning.

In the present state of the art of founding, cast iron might easily be substituted for bronze were it not for its sombre appearance, which entirely excludes it. This disadvantage may, however, be entirely overcome, from the possibility of plating it with silver; in fact, cast iron may be readily silvered, and equally as well as copper and bronze. Some successful experiments which Major Jewreinoff, of St. Petersburg, had made on this subject, induced him to give a short description of the method which he had employed.

The liquid for silvering is prepared in the following manner:—Cyanide of potassium prepared according to Liebig's method, is introduced into a stoppered vessel, and freshly prepared pure chloride of silver, still in a moist state, added; the whole being covered with water, and shaken violently for some time, at the ordinary temperature. An excess of chloride of silver is taken, and should a small quantity of it remain undissolved, a few pieces more of the cyanide are added after some time, taking care, however, to avoid having an excess of the latter salt, but always a small quantity of undissolved chloride at the bottom of the vessel. This last circumstance is important, because when the liquor contains too much free cyanide of potassium, it is easily decomposed, and moreover does not silver so well.

Before employing it, it is filtered, and is thus rendered perfectly clear, iron and a little chloride of silver remaining on the filter. He effects the plating by means of a galvanic battery of one pair, consisting of a zinc and a coke cylinder, which are separated from each other by means of an earthen diaphragm. The pair are placed in a glass vessel, and diluted nitric acid is conveyed into the earthen diaphragm. Experience has shown that the best mixture for the coke cylinders should consist of five parts, by weight, of finely pulverized coil, and two parts common rye flour.

When the cylinders are dry they are placed in earthen crucibles, in the lids of which there is an aperture for the escape of the gases, and are then heated to redness. Those cast-iron objects may be most easily silvered which have not been painted as the removal of the paint from the surface of the metal is somewhat difficult. The cleansed object is immersed in the silver solution, and connected with the zinc pole by means of a conducting wire, and a

platinum plate immersed in the liquid at some distance from the object to be silvered, and connected with the coke cylinder. A plate of cast iron, of four square inches surface, is generally completely plated in half an hour.

Ladies' Department.

HOME AND WOMAN.

If ever there has been a more touching and eloquent eulogium upon the charms of home, and its dearest treasure, woman, than is contained in the following extract from the *Christian Inquirer*, it has not been our good fortune to meet it:—

"Our homes, what is their corner-stone but virtue of woman, and on what does social well-being rest but on our homes? Must we not trace all other blessings of civilized life to the doors of our private dwellings? Are not our hearth stones, guarded by the holy forms of conjugal, filial, and parental love, the corner-stones of church and State; more sacred than either; more necessary than both? Let our temples crumble, and our academies decay: let every public edifice, our halls of justice, and our capitals of state be levelled with the dust; but spare our homes. Man did not invent and he cannot improve or abrogate them. A private shelter to cover in two hearts dearer to each other than all in the world; high walls to exclude the profane eyes of every human being; seclusion enough for children to feel that mother is a holy and peculiar name—this is home; and here is the birth-place of every virtuous impulse, of every sacred thought. Here the church and the State must come for their origin and their support. O, spare our homes! The love we experience there gives us our faith in an infinite goodness; the purity and disinterested tenderness of home is our foretaste and our earnest of a better world. In the relations there established and fostered, do we find through life the chief solace and joy of existence. What friends deserve the name compared with those whom a birth-right gave us. One mother is worth a thousand friends, one sister dearer and truer than twenty intimate companions. We who have played on the same hearth, under the lights of smile, who date back to the same scene and season of innocence and hope; in whose veins runs the same blood, do we not find that years only make more sacred and important the tie that binds us! Coldness may spring up, distance may separate, different spheres may divide—but those who can love anything, who continue love at all, must find that the friends whom God himself gave are wholly unlike any we can choose for ourselves, and that the yearning for these is the strongest spark in our expiring affection.

Home Education.—Education does not commence with the alphabet. It begins with a mother's look—with a father's nod of approbation, or sign of reproof—with a sister's gentle pressure of the hand, or a brother's noble act of forbearance—with handfuls of flowers in green, deisy meadows—with birds' nests, admired but not touched—with creaping aunts, and almost imperceptible emmets—with humming bees, and glass bee-hives—with pleasant walks, and shady lanes—and with thoughts directed in sweet and kindly tones and words to nature, to beauty, to acts of benevolence, to deeds of virtue, and to the source of all good, to God himself.

Boiling Potatoes.—The correspondent of the London Times says:

"The following method of dressing potatoes will be found of great use at this season of the year, when skins are tough and potatoes are watery. Score the skin of the potato with a knife, lengthwise and across, quite around, and then boil the potato in plenty of water and salt, with the skin on. The skin readily cracks when it is scored, and lets out the moisture, which otherwise renders the potato soapy and wet. The improvement to bad potatoes by this method of boiling them is very great, and all who have tried it find a great advantage in it, now that good potatoes are very difficult to be obtained."

Mock Turtle.—Take two calf's feet, and one chicken, cut them into pieces as for a fricasee; make the seasoning with three large onions, a large handful of parsley, and a few sweet herbs; chop them all together; then season the meat; let the calf's feet stew two hours and a half in three quarts of water; then put in the chicken, let it stew half an hour; then take the juice of two lemons; some cayenne pepper; put that in last; let it all stew together half an hour and serve it up in a soup-dish. Forced-meat balls of veal may be laid at the top, and hard eggs.

Gingerbread Snaps.—Take a pound and a half of flour, half a pound of butter, the same of sugar, and molasses, and an ounce of powdered ginger. Mix well before the fire, add five table-spoonfuls of thick cream, work into a stiff paste, roll out thin, dip a wine-glass into flour, cut out the snaps with it, and bake in a quick oven.

Beef Tea.—Cut a pound of lean beef into thin slices, put it into three pints of cold water, set it over a gentle fire where it may become gradually warm, let it be well skimmed, cover the saucepan close, and boil gently for two hours, strain it, and let it stand to settle, then pour it off clean. One onion, a few peppercorns, and a little salt, may be added if required.

☞ Brave actions are the substance of life, and good sayings the ornament of it.

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